

**REMARKS**

Reconsideration and further examination of the application are respectfully requested. All objections and rejections are traversed.

In the Office Action, claims 13-16, 18, 20, 21 and 31 were rejected under 35 U.S.C. §103 based on U.S. Patent No. 5,864,679 to Kanai et al. ("Kanai") in view of U.S. Pat. No. 6,718,413 to Wilson ("Wilson") and U.S. Patent No. 6,219,734 to Wallach et al. ("Wallach"). Claims 22-25 were rejected under §103 based on Kanai in view of Wallach and U.S. Patent No. 6,243,778 to Fung et al. ("Fung"). Claims 26-28 were rejected under §103 based on Kanai in view of Wilson, Wallach and U.S. Patent No. 6,085,294 to Van Doren et al. ("Van Doren 294"). Claims 29 and 30 were rejected under §103 based on Kanai in view of Wilson, Wallach and U.S. Patent No. 6,085,276 to Van Doren et al. ("Van Doren 276"). Claims 32 and 41 were rejected under §103 based on Wallach in view of U.S. Pat. No. 6,119,185 to Westerinen et al. ("Westerinen"). Claims 33 and 37-40 were rejected under §103 based Wallach in view of Westerinen and Fung. Claims 34-36 were rejected under §103 based Wallach in view of Westerinen and Van Doren 276.

**Claims 13-31**

Independent claim 13 recites, in relevant part, as follows:

"A method for programmably allocating resources to accommodate I/O transactions at I/O ports of a multiprocessor computer system comprising:"

"determining the number of devices being serviced via the ports", and

"setting criteria for transactions at the port with respect to **the number of devices**".

The Office Action, at p. 3, cites to Col. 5, lines 41-43 of Kanai as teaching the above-quoted “setting” limitation. Applicants respectfully disagree that this excerpt of Kanai provides such a teaching or suggestion. In its entirety, the cited portion of Kanai states:

means for routing each transaction to one of the transaction processors according to the feature parameters extracted by the extracting means and the processing history information stored by the storing means.

As shown, this excerpt from Kanai provides no teaching or suggesting for setting criteria for transactions at a port with respect to the number of devices. There is no teaching of **the setting** of any criteria **at a port**, nor is there any teaching that such setting is with respect to the number of devices being serviced via the ports. Instead, what Kanai is talking about here is the forwarding of transactions, such as a bank withdrawal transaction, to specific processors according to particular parameters that are found within the transactions themselves. Kanai, Col. 15, lines 33-45 and Fig. 10.

In fact, Kanai actually teaches away from the present invention. That is, rather than setting criteria for transactions at a port, Kanai examines each transaction and makes a decision where to send that transaction for processing, based on parameters extracted from the transaction itself. Thus, Kanai teaches a system that operates on a transaction-by-transaction basis such that each transaction is separately considered. To the contrary, claim 13 recites setting criteria for transactions **at a port** with respect to the number of devices.

Because Kanai fails to provide any teaching or suggestion for setting criteria for transactions **at a port**, as claimed, and instead teaches away from the claimed invention,

the rejection of claim 13 based on Kanai should be withdrawn. See MPEP §2143.03 (“To establish prima facie obviousness of a claimed invention, **all** the claim limitations must be taught or suggested by the prior art.”). Claims 14, 17 and 18, moreover, all depend from claim 13, and are thus in condition for allowance as well.

Independent claim 15, in relevant part, recites as follows:

“means for setting criteria for transactions **at the port** with respect to the number of devices”.

Likewise, independent claim 21, in relevant part, recites as follows:

“setting criteria for the transactions at the **at least one I/O port** with respect to the number of I/O devices being serviced by the port”.

For the reasons set forth above in connection with claim 13, Kanai fails to teach or suggest Applicants’ claimed “means for setting criteria for transactions **at the port** with respect to the number of devices” as recited in claim 15, or the claimed “setting criteria for the transactions **at the least one I/O port** with respect to the number of I/O devices being serviced by the port” as recited in claim 21. Therefore, the rejection of claims 15 and 21 should be withdrawn. Furthermore, claims 16, 19 and 20 depend from claim 15, and claims 22-31 depend from claim 21. Thus, these claims too are in condition for allowance.

#### Claims 32-41

Independent claim 32, in its entirety, recites as follows:

“An Input/Output (I/O) bridge for use in a computer system having a plurality of processors, the I/O bridge comprising:”

“a plurality of I/O ports, each I/O port configured to communicate with at least one I/O device that generates or receives transactions;”

“resources for use in servicing the transactions of the I/O devices; and”

“programmable logic configured and arranged to assign the resources **among the I/O ports** in response to the number of I/O devices with which the I/O ports are communicating.”

As shown, claim 32, among other things, recites programmable logic disposed at an I/O bridge that is configured “to assign the resources **among I/O ports**” on the basis of the number of I/O devices with which the I/O ports are communicating.

The Office Action, at p. 8, cites to Col. 2, lines 1-12 of Westerinen as teaching Applicants’ claimed “programmable logic” limitation. This excerpt from Westerinen, in its entirety, states as follows:

processing logic that performs control and data processing functions; a plurality of resources that have resource settings therefore that are coupled to said processing logic and including at least interrupts and memory; a plurality of devices which require access to one or more of said plurality of resources; and **configuration logic that assigns**, substantially in parallel, **two or more of said plurality of devices to said resources**. Another embodiment of the present invention includes similar features and configuration logic that decides the order in which two or more of said plurality of devices are assigned to one of said plurality of resources before making an assignment of those two or more devices to that resource.

As shown, Westerinen discloses configuration logic that assigns devices directly to resources. This is not, however, what claim 32 recites. Claim 23 recites programmable logic configured to assign resources **among I/O ports** to which the devices, in turn, may be coupled.

In contrast, what Westerinen teaches is the assignment **of devices** directly to the resources, so that each device is assigned to a particular resource. There is no teaching or suggestion by Westerinen to assign resources **among I/O ports**. Instead, Westerinen operates solely at the device level, and provides no teaching or suggestion for assigning re-

sources among I/O ports. Because Westerinen fails to teach or suggest logic assigning resources among I/O ports, the rejection of claim 32 should be withdrawn.

Claims 33-41 all depend from claim 32. Accordingly, these claims too are allowable.

Applicants submit that the application is in condition for allowance and early favorable action is requested.

Authorization to Debit Deposit Account

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. §1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

Respectfully submitted,



Michael R. Reinemann  
Reg. No. 38,280  
(617) 951-2500

Send all correspondence to:  
IP Administration Legal Department,  
M/S 35  
Hewlett-Packard Co.  
P.O. Box 272400  
Fort Collins, CO 80527-2400